

Work Order ID 156288

Friday, January 27, 2017 12:52:30 PM

156288

Page 1

Item ID: D2521 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Individual Bearpaw
Start Date: 1/13/2017 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 1/27/2017 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **FEB 01 2017** Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2521	Rev J								
120	FLOW WATER JET	0.00							
120									
Waterjet	Memo	0.61							
FLOW CNC Waterjet	Cut Blank as per D2521 blank file								
130	HAAS CNC VERTICAL MACHINING #1	0.04							
130									
HAAS 1	Memo	1.12							
HAAS CNC vertical machine #1	1-Inspect material for defects or damage prior to machining 2-Machine as per Folio and Dwg D2521 Identify as D2521 3-Deburr								
140	QC2- Inspect parts off machine FAI/FAIB	0.00							
140									
QC	Memo	0.01							
Quality Control									

PTO

DQA:

Date:

2017-04-05



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: APR 01 2017

Work Order update only ☐

Work Order: <u>156288</u> Part No. <u>D2521</u> NCR No. <u>17-6366</u>		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☒ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐			
Date: <u>17-03-01</u>		Step #: <u>130</u>		QTY Effective: <u>①</u>		MRB (QSI042) Approval <u>INSP 12 17/3/1</u>	
Description Work Order Deviation				Disposition		Completed By	
Bottom chaffer is .030 over max tolerance R.C. offset no set properly				Cosmetic. Acceptable		<u>17-03-01</u> Lead hand / Supervisor Approval Verification DAS 9 9-89 <u>17-03-01</u> QC / QA Coordinator Approval DAS 9 9-89 <u>17-03-01</u>	
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☒ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ Outside Dimensions ☐ Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance ☒ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved ☐ Crushing ☐ Countersink ☐ Off-set ☐ Drawing ☐ Heat Treat ☐ Cut Too Short ☐ Mis-labeled ☐ Finish ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread ☐ Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence ☐					
		OTHER: ☐					

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Page 2

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Item Name: Individual Bearpaw
Start Date: 1/13/2017 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 1/27/2017 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC8- Inspect parts - second check	0.00				8	0		DAS 45/73-6 9-89
150	Memo	0.03							
QC									
Quality Control									
160	Identify as per dwg & Stock Location: <u>st</u>	0.00				8	6		DAS 9-89 MAR 10 2017
160	Memo	0.01							
Packaging									
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							17/3/13
170	Memo	0.13							
QC									
Quality Control									

DAS
21
9-89
MAR 10 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
3AG 34 08-0									
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

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Page 1

Work Order ID: 156288

156288

Parent Item: D2521

D2521

Parent Item Name: Individual Bearpaw

Start Date: 1/13/2017

Required Date: 1/27/2017

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP Rev:A 08-10-01 New Manufacturing Method JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased	No				sf	581.5000		58.94737			

MUHMWB10

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

01/17/02/02

Location

Loc Qty

Loc Code

MAT018

581.5

m136290

181.5

m136453

400

55

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER :									

DART AEROSPACE LTD		Work Order: 156288
Description: Bearpaw		Part Number: D2521
Inspection Dwg: D2521	Rev: J	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension			Actual Dimension	Accept	Reject	Method of Inspection	Comments
Dim	Min	Max					
A	0.260	0.266	.260	✓		Vern 7/106	
B	0.90	0.96	.930	✓		"	
C	0.27	0.330	.318	✓		"	
D	0.470	0.530	.560	✓			acceptable as NCR.
E	21.740	21.760	21.750			tape	
F	0.72	0.780	.750			Vern	
G	0.35	0.410	.377			↓	
H	11.490	11.570	11.500			tape	
I	3.41	3.47	3.430			Vern	
J	11.790	11.810	11.800			tape	
K	9.47	9.53	9.500			CNC-02	
L	7.190	7.210	7.200			↓	
M	6.910	6.970	6.940			↓	
N	44.47	44.530	44.500			tape	
O	6.590	6.650	6.619			CNC-02	
P	0.940	0.980	.955			Vern	
Q	18.97	19.03	19.00			tape	
R	0.350	0.410	.380			Vern	
S	0.740	0.780	.748			↓	
T	0.240	0.280	.240			↓	
U	0.370	0.410	.379			↓	
V	0.740	0.780	.740			↓	
W	0.740	0.780	.740			↓	

Measured by: <i>P. J. 2-8</i>	Audited by: <i>DAS 45</i>	Prototype Approval:	N/A
Date:	Date: 17-3-6	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.09.22	New Issue P/O D205-564-011 & D430-688-011	KJ/RF	
B	05.06.15	Dimensions and tolerances changed	KJ/RF	
C	06.08.31	Dimensions updated per D2521 Rev. J	KJ/JLM	



DESIGN		DRAWN BY	C.B.	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED		APPROVED		DRAWING NO.	REV. J
				D2521	SHEET 1 OF 3
DATE	06.07.28			TITLE	SCALE
				205 BEARPAW	NTS
A	95.11.28	NEW ISSUE			
B	96.01.11	SHOW BENDING MOVE HOLES			
C	96.01.29	ADJUST HOLE LOCATION FOR TOOLING			
D	96.05.14	ADJUSTED BEAR PAW THICKNESS			
E	96.12.18	43.500 WAS 46.750			
F	97.05.07	ADDED REAR POCKET, MOVED HOLES			
G	98.08.06	ADD C'BORE AND CHAMFER EDGES			
H	03.01.30	CHANGE GEOMETRY FOR RUN-ON LDG.			
I	05.05.20	REMOVE BEND; CHANGE TOLERANCES			
J	06.07.28	CHANGE FOR FLOAT SKIDTUBE			

17-02-01
NO. 156288 M.C.S
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
RETURN TO
ENGINEERING
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RELEASED

06 08.23

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DESIGN

DRAWN BY

DART AEROSPACE LTD

HAWKESBURY, ONTARIO, CANADA

CHECKED

APPROVED

DRAWING NO.

REV. J

D2521

SHEET 2 OF 3

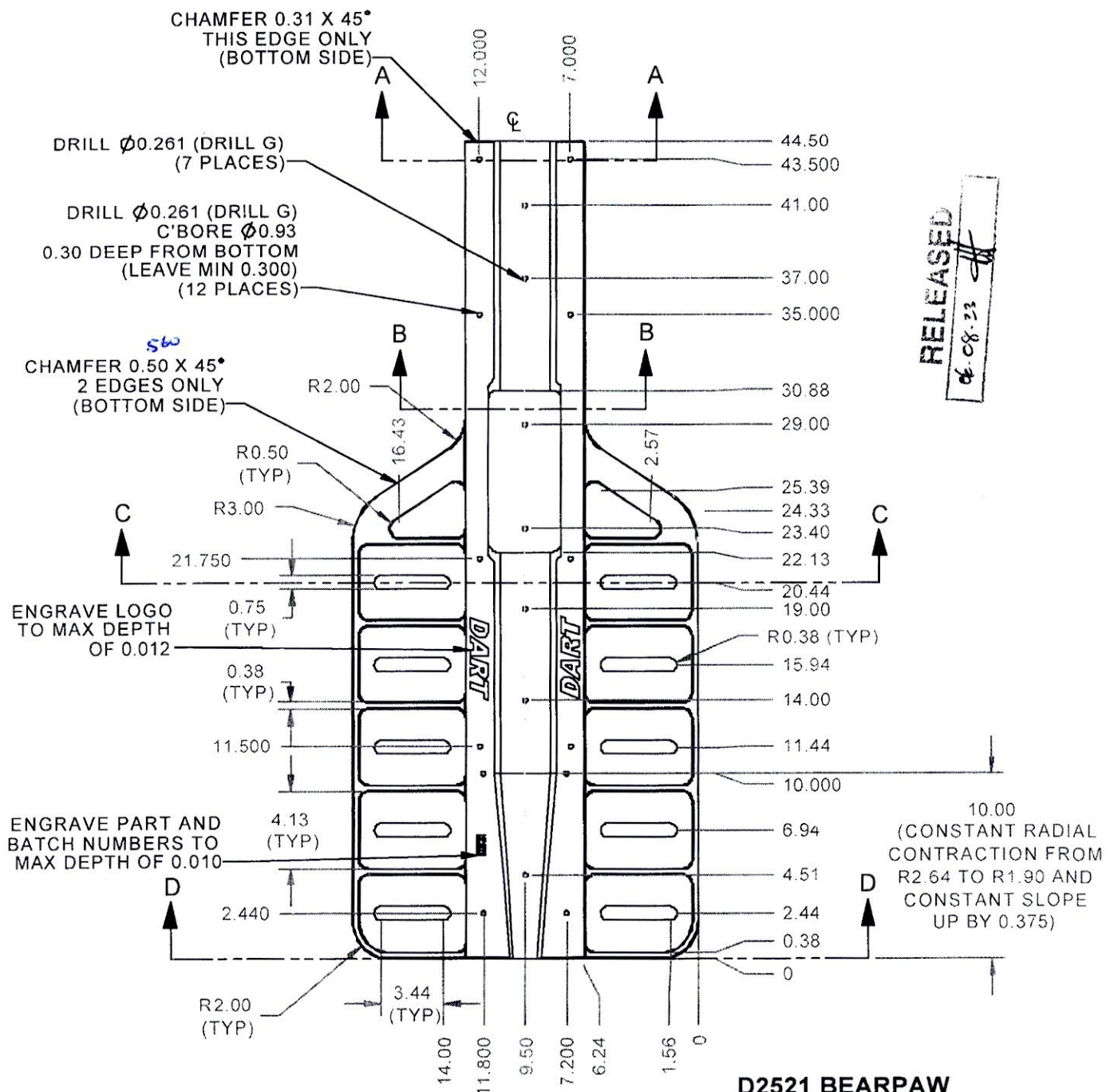
DATE

TITLE

SCALE

06.07.28**205 BEARPAW**

1:8

**NOTES:**

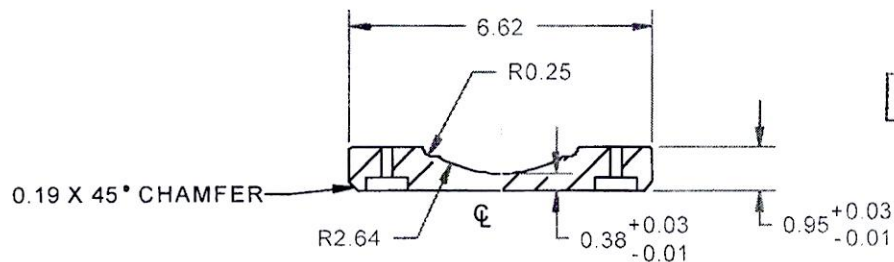
- 1) MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689, 1.000 THICK (MACHINE TO 0.950)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.030
- 6) PART IS SYMMETRIC ABOUT $\varnothing$

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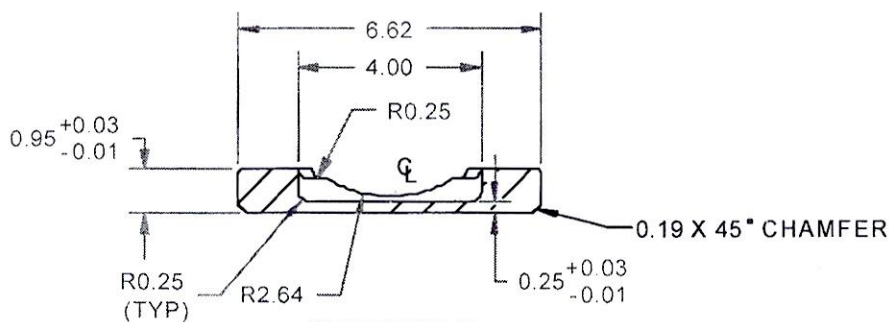


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	C.B.	HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. J
CP		D2521	SHEET 3 OF 3
DATE		TITLE	SCALE
06.07.28		205 BEARPAW	1:4

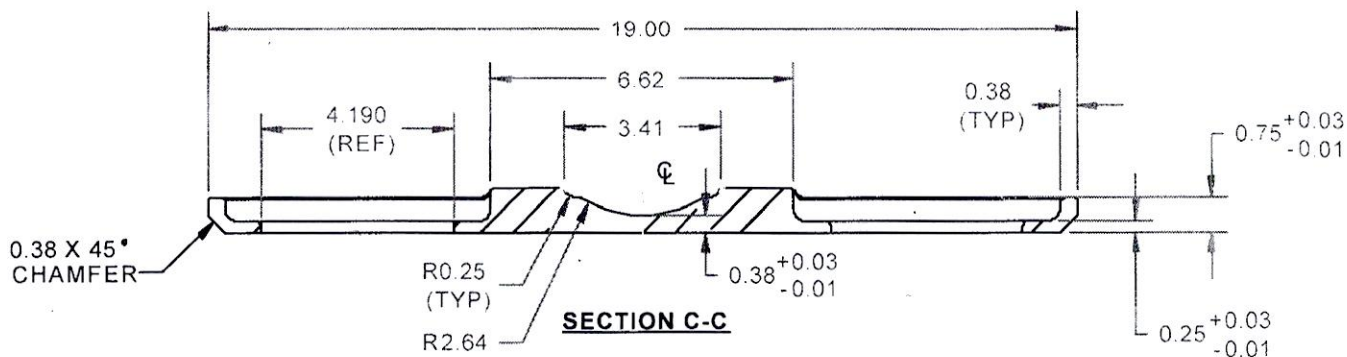


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06.08.23

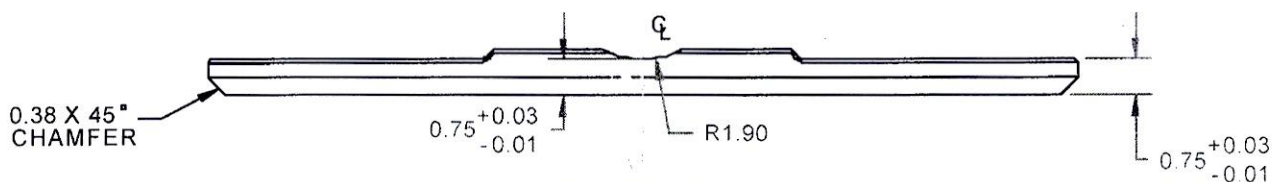
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

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